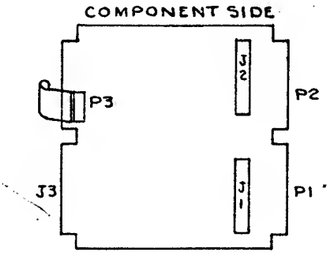
REVISIONS					
REV	DESCRIPTION	DR	CH	DATE	APPROVAL
H0	PRODUCTION RELEASE ENSCRIBE	KF	BP	10-20-80	
H1	INCORP PER EN 8385H	KF	KL	1/16/81	
H2	INCORP PER EN 9220H	KF	KL		
H3	INCORP PER EN 9479D	KF	KL		
H4	INCORP PER EN 9600D	KF	KL		
H5	INCORP PER EN 9714H	KF	KL	7/10/81	

J3	SIGNAL	DIRECTION	LOC.
PIN B01	SPARE		
B02			
B03			
B04			
B05			
B06			
B07			
B08			
B09			
B10			
B11			
B12			
B13			
B14			
B15			
B16			
B17			
B18			
B19			
B20			
B21			
B22			
B23			
B24			
B25			
B26			
B27			
B28			
B29			
B30			
B31			
B32			
B33			
B34			
B35			
B36			
B37			
B38			
B39			
B40			
B41			
B42			
B43			
B44			
B45			
B46			
B47			
B48			
B49			
B50	SPARE		
A01	TRP	(TP) →	C89
A02	QPFD	(TP) →	C126
A03	FULL	(TP) →	
A04	CIE-	(TP) →	C90
A05	CUSQ-	(TP) →	A123
A06	PFE	(TP) →	A89
A07	SPARE		
A08	MIN	(TP) →	C78
A09	SPARE		
A10			
A11			
A12			
A13			
A14			
A15			
A16			
A17	SPARE		
A18	SNCZ	(TP) →	A97
PIN A19	SPARE		

J3 CONT	SIGNAL	DIRECTION	LOC.
PIN A20	SPARE		
A21			
A22			
A23			
A24			
A25			
A26			
A27			
A28			
A29			
A30			
A31			
A32			
A33			
A34	SPARE		
A35	STRTI-	(TP) →	C76
A36	SPARE		
A37			
A38			
A39			
A40			
A41			
A42			
A43			
A44			
A45			
A46			
A47			
A48			
A49	SPARE		
PIN A50	MBYT-	(TP)	C50

UNUSED GATES/IC			
I/C DESIG.	I/C TYPE	UNUSED PIN IN	UNUSED PIN OUT
87	7433	9,10	8



TABULATION BLOCK	
DASH NO.	DESCRIPTION
- 00	WITH POWER FAIL
- 01	W/OUT PWR FAIL
- 02	WITH RESTART
(10) - 03	ACTIVE DMA

(10) DASH 03 IS IDENTICAL TO DASH 00.

(9) THIS SIGNAL CONNECTED THRU MOTHERBOARD ONLY.

8. BIDIRECTION SIGNAL DENOTED BY —⋈—
7. OUTPUT SIGNAL DENOTED BY —▷—
6. INPUT SIGNAL DENOTED BY —◁—
5. RESISTOR PACKS ARE 1K OHMS, ±5%, 1/4 W.
4. 2.2 MICROFARAD CAPACITORS ARE ±10%, 35V.
3. .022 MICROFARAD CAPACITORS ARE -80%-20%, 25V.
2. RESISTORS ARE IN OHMS, ±5%, 1/4 W.
1. SEE DRAWING NUMBER 73-53506-XX FOR ASSEMBLY DRAWING.

NOTES: UNLESS OTHERWISE SPECIFIED

NOTES UNLESS SPECIFIED			
1. TOLERANCES .XX ±.03 ANGULAR .XXX ±.010 ±½°	DR	G. FONTAN	10/79
2. BREAK ALL SHARP EDGES .010 APPROX.	CH		11/27/79
3. ALL DIM. IN INCHES	DS	G. FONTAN	10/19/79
	ENG		10/31/79

DASH NO.	NEXT ASSEMBLYS

ComputerAutomation
18651 Von Karman, Irvine, Calif. 92664

TITLE: LOGIC DIAGRAM — PROCESSOR FULL/CARD

SIZE	DWG. NO.	REV
D	75-53506-XX	H5

DO NOT SCALE DRAWING | SCALE = NONE | SHT. 1 OF 18

31

B 75-53506-XX H5

CØNNECTØR SIGNALS

P1	SIGNAL	DIRECTIØN	LOC.
PIN 101	GND	←	
102	GND	←	
103	+12V		
104	+12V		
105	+12V		
106	+12V		
107	-12V		
108	-12V		
109	SSW-	←	A77
110	TF-	←	B63
111	TYLF	←	B10
112	+5H	←	D122
113	+5V	←	
114	+5V	←	
115	MST-	→	
116	SPARE		
117	MACK-	←	A112
118	RD-	→	D105
119	TYP I-	→	B10
120	SLB-	→	C49
121	PFD-	↔	
122	MDIS-	→	C121
123	ABØ8-	→	C65
124	ABØ9-	→	C65
125	ABI0-	→	D65
126	ABII-	→	D65
127	GND	←	
128	GND	←	
129	ABI2-	→	B65
130	ABI3-	→	B65
131	ABI4-	→	B65
132	ABI5-	→	B65
133	AL-	→	B10
134	BM-	→	C114
135	STØP-	→	C115
136	SACK-	→	B10
137	ØVF-	→	B81
138	START-	→	B122
139	DBØØ-	↔	A62
140	DBØ1-	↔	A62
141	DBØ2-	↔	B62
142	DBØ3-	↔	B62
143	+5V	←	
144	+5V	←	
145	DBØ4-	↔	B62
146	DBØ5-	↕	B62
147	DBØ6-	↕	C62
148	DBØ7-	↕	B62
149	DBØ8-	↕	C62
150	DBØ9-	↕	C62
151	DBI0-	↕	C62
152	DBII-	↕	C62
153	DBI2-	↕	D62
154	DBI3-	↕	D62
155	DBI4-	↕	D62
156	DBI5-	↔	D62
157	EXEC-	→	
158	IN-	→	
159	GND	←	
160	GND	←	
161	IØCL-	→	B110
162	ØUT-	→	B10
163	CLK-	→	
164	SER-	←	B112
165	IUR-	←	C104
166	ILI-	NØT USED	
167	IAR-	→	
168	IL2-	NØT USED	
169	RST-	→	C121
170	IUA-	→	
171	PLSE-	→	
172	ECHØ-	→	
173	+5V	←	
174	+5V	←	
175	ABØ3-	→	A65
176	ABØ4-	→	A65
177	ABØ5-	→	A65
178	ABØ6-	→	C65
179	ABØ7-	→	C65
180	ABØØ-	→	A65
181	ABØ1-	→	D65
182	ABØ2-	→	A65
183	SERV-	→	B121
184	CINT-	←	D104
185	GND	←	
PIN 186	GND	←	

P2	SIGNAL	DIRECTIØN	LOC.
PIN 201	GND	←	
202	GND	←	
203	+12V	NØT USED	
204	+12V		
205	+12V		
206	+12V		
207	-12V		
208	-12V		
209	DPIN-	NØT USED	
210	DPØT-	←	
211	SPARE		
212	SPARE		
213	+5V	←	
214	+5V	←	
215	MST-	→	C114
216	SPARE		
217	MACK-	←	A112
218	RD-	→	D105
219	RESERVE		
220	SLB-	NØT USED	
221	PFD-	↔	
222	MDIS-	→	C121
223	ABØ8-	NØT USED	
224	ABØ9-	NØT USED	
225	ABI0-	→	
226	ABII-	→	
227	GND	←	
228	GND	←	
229	ABI2-	→	
230	ABI3-	→	
231	ABI4-	→	
232	ABI5-	NØT USED	
233	SPARE		
234	SPARE		
235	STØP-	NØT USED	
236	SACK-	→	D114
237	MEIN-	NØT USED	
238	MBØT	→	
239	DBØØ-	NØT USED	
240	DBØ1-	↕	
241	DBØ2-	↕	
242	DBØ3-	NØT USED	
243	+5V	←	
244	+5V	←	
245	DBØ4-	NØT USED	
246	DBØ5-	↕	
247	DBØ6-	↕	
248	DBØ7-	↕	
249	DBØ8-	↕	
250	DBØ9-	↕	
251	DBI0-	↕	
252	DBII-	↕	
253	DBI2-	↕	
254	DBI3-	↕	
255	DBI4-	↕	
256	DBI5-	NØT USED	
257	EXEC-	→	B114
258	IN-	→	A114
259	GND	←	
260	GND	←	
261	IØCL-	→	A110
262	ØUT-	→	A114
263	CLK-	→	D114
264	SER-	←	C112
265	IUR-	←	
266	ILI-	←	D104
267	IAR-	→	B114
268	IL2-	→	C104
269	RST-	NØT USED	
270	IUA-	→	D114
271	PLSE-	→	B114
272	ECHØ-	→	C114
273	+5V	←	
274	+5V	←	
275	ABØ3-	NØT USED	
276	ABØ4-	↕	
277	ABØ5-	↕	
278	ABØ6-	↕	
279	ABØ7-	↕	
280	ABØØ-	↕	
281	ABØ1-	↕	
282	ABØ2-	↕	
283	PRIN-	NØT USED	
284	PRØT-	→	C100
285	GND	←	
PIN 286	GND	←	

P3	SIGNAL	DIRECTIØN	LOC.
PIN 01	ØVCLK-	←	A86
02	ØVØ2	←	C86
03	FWSØØ	↔	B31
04	MDISI-	→	D122
05	ØVØI	←	C86
06	ILØCK-	→	D52
07	SLØCK-	→	A53
08	GND	←	
09	FWSØI	↔	C31
10	FRSCØ	↔	C31
11	FRSØI	↔	D31
12	ALM	←	A38
13	WSTB-	←	C80
14	ØVØØ	←	B86
15	FWUL-	↕	A28
16	LNKØ2	↕	D45
17	WRSØI-	←	B53
18	FREU-	←	C28
19	LNKØI-	←	D45
20	MRSØØ	←	B53
21	MRSØI	←	A53
22	CSØ8-	←	D87
23	GND	←	
24	INHBI-	←	A53
25	RØMQØ-	←	B75
26	RMAØI	←	D50
27	WRSCØ-	←	B53
28	SIF	←	C64
29	FREL-	←	A28
30	TIMØØ	←	B75
31	TIMØI	←	B75
32	TIMØ2	←	B75
33	LNKØØ	←	B48
34	RESVD		
35	FW	←	B80
36	MWMXN-	←	D44
37	TSTR	←	C73
38	IFCLR	←	C99
39	PCSØØ	←	B56
40	PCSØ3	←	C56
41	RMXØN-	←	B53
42	PCSØI	←	B56
43	BCLK-	←	D64
44	PCSØ2	←	C56
45	DFZER	←	C95
46	ALCN	←	B38
47	IØCLI	←	C104
48	MRST-	←	C63
49	TF	←	C63
PIN 50	GND	←	

JI	SIGNAL	DIRECTIØN
PIN A01	GND	→
A02	SPARE	
A03	SPARE	
A04	+12V	→
A05	-12V	→
A06	RESVD	
A07	SSW-	← A77
A08	TILF	→ B10
A09	+5H	→ D128
A10	BSØ3	→ C105
A11	SPARE	
A12	+5V	→
A13	MST-	← C113
A14	MACK-	← A112
A15	SPARE	
A16	FCLK-	→ D114
A17	PFD-	↔
A18	ABØ8-	→ C65
A19	SPARE	
A20	SPARE	
A21	ABI0-	→ D65
A22	GND	→
A23	SPARE	
A24	ABI2-	→ B65
A25	SPARE	
A26	ABI4-	→ B65
A27	AL-	→ B10
A28	SPARE	
A29	SPARE	
A30	SPARE	
A31	DBØØ-	↔ A62
A32	DBØ2-	↔ B62
A33	DBØ4-	↔ B62
PIN A34	SPARE	

JI-CØNT.	SIGNAL	DIRECTIØN	LOC.
PIN A35	+5V	→	
A36	SPARE		
A37	SPARE		
A38	DBØ8-	↔	C62
A39	DBØ6-	↔	C62
A40	DBII-	↔	C62
A41	SPARE		
A42	DBI2-	↔	D62
A43	DBI5-	↔	D62
A44	SPARE		
A45	SPARE		
A46	EXEC-	→	B113
A47	GND	→	
A48	SPARE		
A49	IØCL-	→	B110
A50	CLK-	→	D113
A51	IUR-	←	C104
A52	SPARE		
A53	IAR-	→	B113
A54	RST-	→	C121
A55	BKDIS-	→	
A56	PLSE-	→	B113
A57	ECHØ-	→	C113
A58	+5V	→	
A59	ABØ3-	→	A65
A60	ABØ5-	→	A65
A61	ABØ7-	→	C65
A62	ABØI-	→	B65
A63	STEND	→	B108
A64	BSØ4	→	C105
A65	GND	→	
B01	GND	→	
B02	ØFST-	←	C104
B03	SPARE		
B04	+12V	→	
B05	-12V	→	
B06	IØCK2	→	C126
B07	IF *-	→	B63
B08	SPARE		
B09	+5H	→	D128
B10	CATLD-	←	A125
B11	ØPT-	←	D104
B12	+5V	→	
B13	SPARE		
B14	RD-	→	D105
B15	ØPRØT	←	C104
B16	SLB-	→	C49
B17	MDIS-	→	C121
B18	ABØ9-	→	C65
B19	SPARE		
B20	SPARE		
B21	ABII-	→	D65
B22	GND	→	
B23	SPARE		
B24	ABI3-	→	B65
B25	SPARE		
B26	ABI5-	→	B65
B27	SPARE		
B28	SPARE		
B29	SPARE		
B30	SPARE		
B31	DBØI-	↔	B62
B32	DBØ3-	↔	B62
B33	DBØ5-	↔	B62
B34	SPARE		
B35	+5V	→	
B36	SPARE		
B37	SPARE		
B38	DBØ9-	↔	C62
B39	DBØ7-	↔	B62
B40	DBI0-	↔	C62
B41	STICM	←	B108
B42	DBI3-	↔	D62
B43	DBI4-	↔	D62
B44	SPARE		
B45	SPARE		
B46	IN-	→	A113
B47	GND	→	
B48	SPARE		
B49	ØUT-	→	A113
B50	SER-	←	B112
B51	SPARE		
B52	SPARE		
B53	SPARE		
B54	IUA-	→	D113
PIN B55	SPARE		

JI-CONT.	SIGNAL	DIRECTIØN	LOC.
PIN B56	XPRØT	→	C100
B57	2MHZ		
B58	+5V		
B59	ABØ4-		A65
B60	ABØ6-		C65
B61	ABØØ-		B65
B62	ABØ2-	→	A65
B63	GMDIS-	→	C121
B64	CINT-	←	D104
PIN B65	GND	→	

J2	SIGNAL	DIRECTIØN
PIN A01	GND	→
A02	GND	→
A03	IRØ7-	→ B60
A04	IRØ6-	→ C60
A05	IRØ5	→ A60
A06	IRI3-	→ D60
A07	IRØ8-	→ C60
A08	IRI5-	→ D58
A09	I67-	→ B58
A10	+5V	→
A11	+5V	→
A12	SPARE	
A13	ALUCØ	← B40
A14	ALUC2	← B40
A15	WMBES-	← D44
A16	RESVD	
A17	ØPDØ4-	→ C59
A18	ØPDØØ-	→ B59
A19	RESVD	
A20	RESVD	
A21	GND	→
A22	GND	→
A23	RESVD	
A24	RESVD	
A25	IRIØ-	→ C60
A26	MSELF-	← D69
A27	RESVD	
A28	MSELF	← C69
A29	RESVD	
A30	RESVD	
A31	RESVD	
A32	RESVD	
A33	+5V	→
A34	+5V	→
A35	RESVD	
A36	IØSØØ	← A120
A37	RESVD	
A38	IRQ2-	→ B60
A39	RESVD	
A40	RESVD	
A41	SPARE	
A42	SPARE	
A43	CSØ2	← D72
A44	SPARE	
A45	SPARE	
A46	GND	→
A47	GND	→
A48	BSØ4	← C105
A49	SPARE	
A50	RESVD	
A51	SPARE	
A52		
A53		
A54		
A55	SPARE	
A56	+5V	→
A57	+5V	→
A58	NSER-	→ C108
A59	INTFK	← A104
A60	INTF-	→ A101
A61	BSØ3-	← C105
A62	RESVD	
A63	SPARE	
A64	GND	→
A65	GND	→
BCI	GND	→
BC2	GND	→
BC3	2MHZ	←
BC4	IRQI	→ A60
BC5	IRØ5-	→ B60
BC6	IRI4-	→ D60
BC7	IRØ9-	→ C60
PIN BC8	IRII-	→ C60

J2-CØNT.	SIGNAL	DIRECTIØN	LOC.
PIN B09	IIL6-	←	B58
B10	+5V	→	
B11	+5V	→	
B12	IRI2-	→	C60
B13	STØPI-	→	C114
B14	ALUØI	←	B40
B15	ALUØ3	←	B40
B16	IRØ4- (TP)	→	B60
B17	ØPDØI-	→	B59
B18	ØPDØ5-	→	D59
B19	CSØI	←	A120
B20	IMHZ-	←	D116
B21	GND	→	
B22	GND	→	
B23	IRØ3- (TP)	→	B60
B24	RESVD		
B25	IØCLI-	←	B112
B26	ØPDØ2-	→	C59
B27	SACKI-	←	D116
B28	10MHZ-	←	D116
B29	ØPDØ3-	→	C59
B30	RESVD		
B31	RESVD		
B32	RESVD		
B33	+5V	→	
B34	+5V	→	
B35	BSØ8 (TP)	→	B105
B36	GØ	←	B120
B37	IØ-	←	A118
B38	START-	←	B122
B39	SPARE		
B40	BSØ6 (TP)	→	B105
B41	IRI5- (TP)	→	D60
B42	IØSØI	→	A119
B43	PG5- NØT USED		
B44	SPARE		
B45	SPARE		
B46	GND	→	
B47	GND	→	
B48	PAUSF	←	D110
B49	BSØ7 (TP)	→	B105
B50	BSØ5 (TP)	→	B105
B51	BSØ2 (TP)	→	C105
B52	PØØ-	←	B99
B53	BSØI (TP)	→	C105
B54	RSVP	←	C118
B55	IØ	←	A120
B56	+5V	→	
B57	+5V	→	
B58	DLY	←	A108
B59	INTFJ	←	A104
B60	RESVD		
B61	20MHZ	←	B111
B62	FC2-	←	A64
B63	ENDP	→	A106
B64	GND	→	
PIN B65	GND	→	

P1 J1

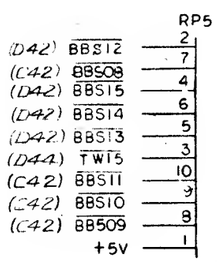
133 AL — A27
162 OUT — B49
111 TILF — A8
136 — SACK (D18)
119 — TYP I (A17)

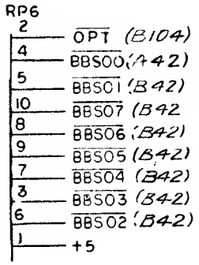
REVISIONS

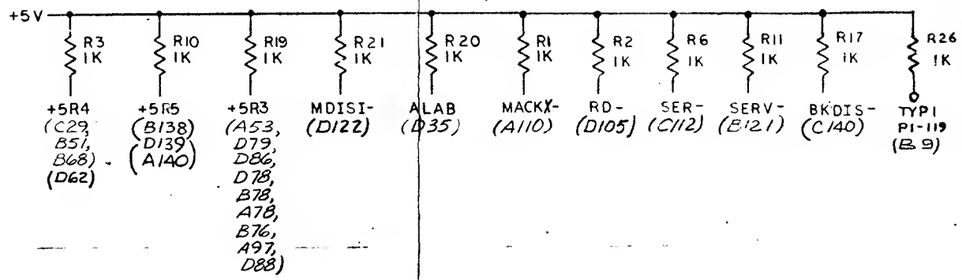
SYM	DESCRIPTION	DATE	APPROVAL

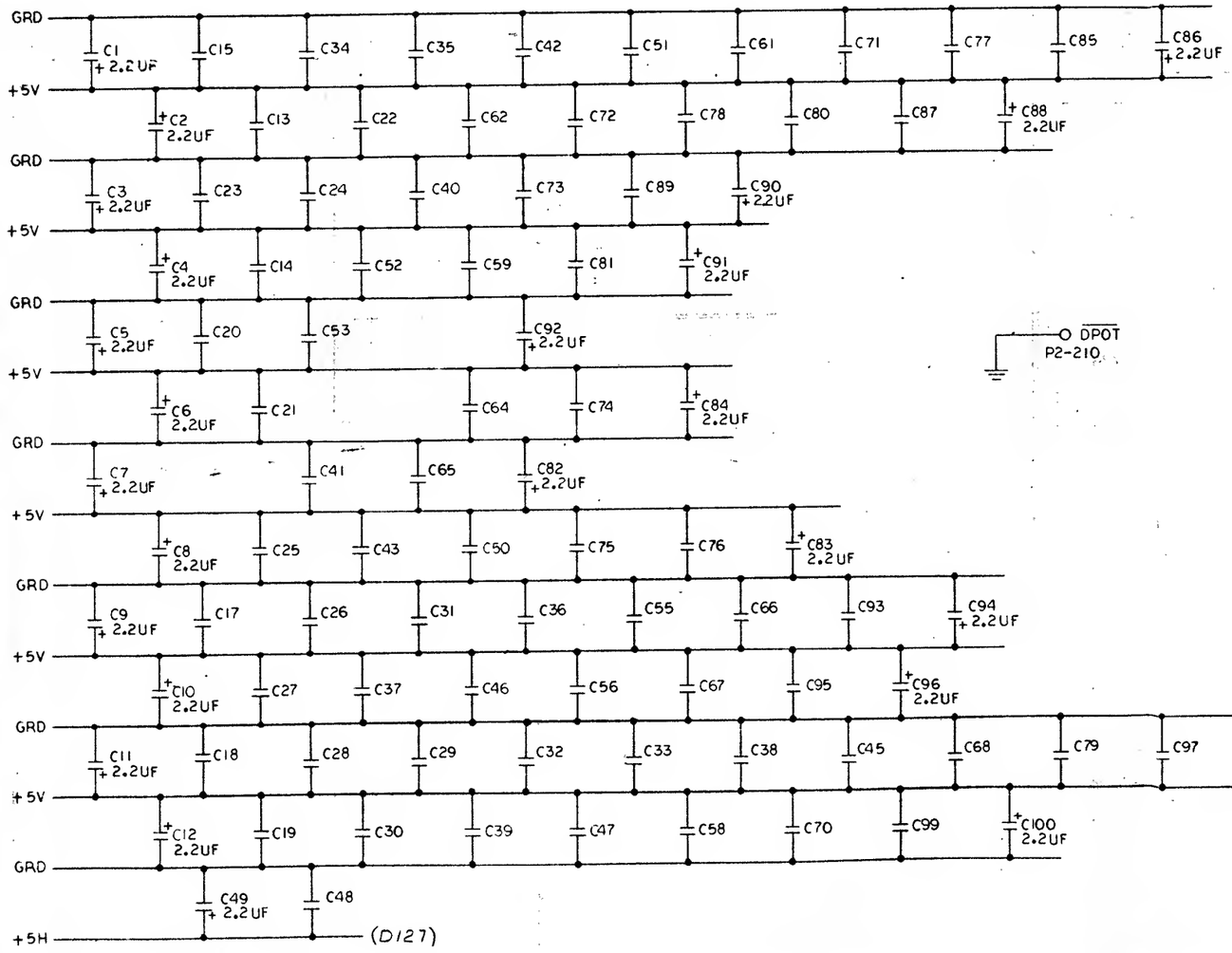
SIZE		REV
D	75-53506-XX	45
SCALE=	SHT. 2 OF	

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVAL

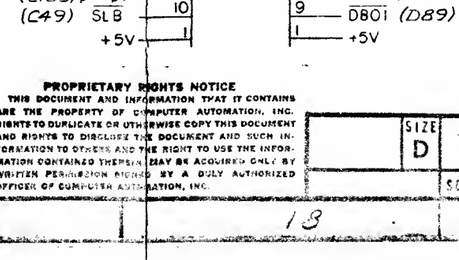


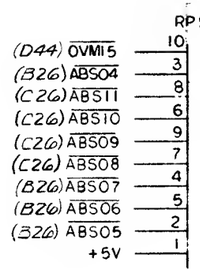


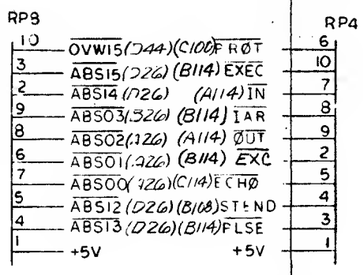


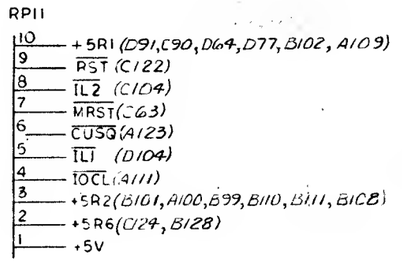


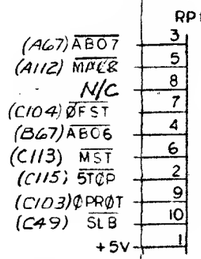
PULLUPS

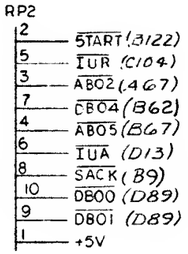












SIZE	75-53506-XX	REV
D		H5
SCALE=	SHT. 5 OF	

REVISIONS					
REV	DESCRIPTION	DR	CH	DATE	APPROVAL

(A86,D53) ØVCLK — 74H00 — FILS (D70,C95) — 74S04 — (D69) FILS — (C85) ØVO1

P3
11 FRSO1
10 FRSO0
09 FWSO1
03 FW300

(B61) IRO3 — 7438
(B61) IRO5 — 7438
(B61) IRO2 — 7438
(B80) — 7438
(B80) — 7438

SPECIAL FILE ADDRESS

FILE LATCH

FWSO1	14	D6	Q6	15	LFWO1
FWSO0	13	D5	Q5	12	LFWO0
(D35) EB15	11	D4	Q4	10	FL15
EBS14	6	D3	Q3	7	FL14
(D36) EBS13	4	D2	Q2	5	FL13
EBS12	3	D1	Q1	2	FL12
(C80) WSTB	9	C			
(A19) +5R4		P	1		

HEX D F/F 49 — 74S174 — (D27)

EBS11	14	D6	Q6	15	FL11
EBS10	13	D5	Q5	12	FL10
(C36) EBS09	11	D4	Q4	10	FL09
EBS08	6	D3	Q3	7	FL08
(B36) EBS07	4	D2	Q2	5	FL07
(B36) EBS06	3	D1	Q1	2	FL06
	9	C			
		P	1		

HEX D F/F 50 — 74S174 — (C27) — (B27)

(B36) EBS05	14	D6	Q6	15	FL05
(B36) EBS04	13	D5	Q5	12	FL04
EBS03	11	D4	Q4	10	FL03
EBS02	6	D3	Q3	7	FL02
(A36) EBS01	4	D2	Q2	5	FL01
EBS00	3	D1	Q1	2	FL00
	9	C			
		P	1		

HEX D F/F 51 — 74S174 — (B27) — (A27)

P3 18 FREU
P3 29 FREL
P3 15 FWUL — (B27, C27, D27)

FILES

(D28) — 74170 (4×4 REG FILE) — G1

FL15	3	IN3	OUT3	6	ABS15 (B87, D37, C19)
FL14	2	IN2	OUT2	7	ABS14
FL13	1	IN1	OUT1	9	ABS13 (D37, C19)
FL12	15	IN0	OUT0	10	ABS12
FRSO1	4	RSB			
FRSO0	5	RSA			
FREU	11	REN			
LFWO1	13	WSB			
LFWO0	14	WSA			
(A28) FWUL	12	WEN			

(C28) — 74170 (4×4 REG FILE) — 73

FL11	3	IN3	OUT3	6	ABS11
FL10	2	IN2	OUT2	7	ABS10
FL09	1	IN1	OUT1	9	ABS09 (C37, C20)
FL08	15	IN0	OUT0	10	ABS08
FRSO1	4	RSB			
FRSO0	5	RSA			
FREU	11	REN			
LFWO1	13	WSB			
LFWO0	14	WSA			
(A28) FWUL	12	WEN			

(C28), (B28) — 74170 (4×4 REG FILE) — 62

FL07	3	IN3	OUT3	6	ABS07
FL06	2	IN2	OUT2	7	ABS06
FL05	1	IN1	OUT1	9	ABS05 (B37, C20)
FL04	15	IN0	OUT0	10	ABS04
FRSO1	4	RSB			
FRSO0	5	RSA			
FREL	11	REN			
LFWO1	13	WSB			
LFWO0	14	WSA			
(A28) FWUL	12	WEN			

(B28) — 74170 (4×4 REG FILE) — 63

FL03	3	IN3	OUT3	6	ABS03
FL02	2	IN2	OUT2	7	ABS02
FL01	1	IN1	OUT1	9	ABS01 (A37, C19)
FL00	15	IN0	OUT0	10	ABS00
FRSO1	4	RSB			
FRSO0	5	RSA			
FREL	11	REN			
LFWO1	13	WSB			
LFWO0	14	WSA			
	12	WEN			

SIZE		REV
D	75-53506-XX	H5
SCALE:	SHT. 4 OF	

REVISIONS					
REV	DESCRIPTION	DR	CH	DATE	APPROVAL

CNZ

CIN
ALU
74181
COUT

(D26) ABS12 ABS13 ABS14 ABS15 (2, 23, 21, 19)
(D42) BBS12 BBS13 BBS14 BBS15 (1, 22, 20, 18)
GALS0 (6) ALS01 (5) GALS2 (4) ALS03 (3) ALM (8)

FO RBS12 (D29, D71, D48, B46) (9)
F1 RBS13 (D29, D71, D48, B46) (10)
F2 RBS14 (D29, C71, D48, B46) (11)
F3 RBS15 (13)
F=0 ALAB (14) (C78, A18)
G AL03G (17)
P AL03P (15)
COUT (16) CØUT (B77)

ZBS15 (B51, B78, D88)
74H11 ZB15 (D29) (D48, B46, C71)

(B54) BYTIN 5 → 99 → 6 → 7404
4, 5 → 87 → 6 GALS0 → 7432
1, 2 → 87 → 3 GALS2 → 7432

CNY

CIN
ALU
74181
COUT

(C26) ABS08 ABS09 ABS10 ABS11 (2, 23, 21, 19)
(C42) BBS08 BBS09 BBS10 BBS11 (1, 22, 20, 18)
GALS0 (6) ALS01 (5) GALS2 (4) ALS03 (3) ALM (8)

FO RBS08 (9)
F1 RBS09 (10) (C29, D48) (C71, B46)
F2 RBS10 (11)
F3 RBS11 (13)
F=0 ALAB (14)
G AL02G (17)
P AL02P (15)
COUT (16)

N/C

CNX

CIN
ALU
74181
COUT

(B26) ABS04 ABS05 ABS06 ABS07 (2, 23, 21, 19)
(B42) BBS04 BBS05 BBS06 BBS07 (1, 22, 20, 18)
ALS00 (6) ALS01 (5) ALS02 (4) ALS03 (3) ALM (8)

FO RBS04 (9) (A46, B29)
F1 RBS05 (10) (B71, B47)
F2 RBS06 (11) (B46, B71, C29, C48)
F3 RBS07 (13)
F=0 ALAB (14)
G AL01G (17)
P AL01P (15)
COUT (16)

N/C

(B36) ALCN

CIN
CNZ (9)
CNY (11)
CNX (12)
G (10) N/C
P (7) N/C
74182

G3 (5)
P3 (6)
G2 (14)
P2 (15)
G1 (1)
P1 (2)
G0 (3)
P0 (4)

P3
46 ALCN → ALCN (B47, B35) (B103)

CNX

CIN
ALU
74181
COUT

(A26) ABS00 ABS01 ABS02 (2, 23, 21)
(B26) ABS03 (19)
(B42) BBS00 (1)
(B42) BBS01 (22)
(A42) BBS02 (20)
(B42) BBS03 (18)
ALS00 (6) ALS01 (5) ALS02 (4) ALS03 (3) ALM (8)

FO RBS00 (9) → (C83, B83, B29, C48, A46, A71)
F1 ZBS01 (10) → (D91, B29, C48, A46, A71)
F2 RBS02 (11) (B29, C48)
F3 RBS03 (13) (A46, A71)
F=0 ALAB (14)
G AL00G (17)
P AL00P (15)
COUT (16)

N/C

P3
12 ALM

U2
3097
EN 8
A13 ALU00 (10) → ALS00 (9)
B14 ALU01 (6) → ALS01 (7)
A14 ALU02 (4) → ALS02 (5)
B15 ALU03 (2) → ALS03 (3) → (B87, D87)

ALU

SIZE	DRAWING NO.	REV
D	75-53506-XX	45
SCALE:		Sht. 5 OF

40 39 38 37 36 35 34 33

REVISIONS					
REV	DESCRIPTION	DR	CH	DATE	APPROVAL

W SHIFT REGISTER

SHIFT MUX LINKING

M SHIFT REGISTER

M/W TO BBUS

SIZE		REV
D	75-5350G-XX	H5
SCALE=	SH. 6 OF	

REVISIONS					
REV	DESCRIPTION	DR	CH	DATE	APPROVAL

(D42) BBS15 — 101 7404 — 114 7410 — ILOCK — P3 6

(D32) ØVCLK, (B85) ØVOO — 137 7408

(B54) PCBYT.11, WØRDM.12 — 98 7402 — 110 7438 — RMAO1 — P3 26

(C61) IRI1, (D61) IRI3 — 85 7400 — (D61) IRM4, (D61) IRI2 — 114 7410 — (D30) BYT — 114 7410 — (A97) SNCE 9

WØRDM — (B14)

(C61) IRI0, BPCS — 87 7432

ROM LATCH CLOCK CONTROL

WØRDM 8 — 133 7402

BCLK* (B54) — 74H106 121 — MBYT — (BG6) — J3 A50

(C63) IFI

11 — 133 7402 — 10 — 110 7438 — SLB1 — J1 BK6

(D116) SACKI — (D18, B64)

P3 44 PCS02 — 40 PCS03 — 140 7400 — (C79) WSTB

74155 116 — XEN, YEN — X0 N/C (NØP), X1 N/C, X2 N/C, X3 BPCS, Y0 SWB (D34), Y1 CINTF (A102), Y2 N/C, Y3 INTN (B103)

39 PCS00, 42 PCS01 — 74155 128 — XEN, YEN — X0 RMXØN → P3 41, X1 PCBYT (D52), X2 BYTIN (D39), X3 IRSTR (A64, C117), Y0 ECEN (C118), Y1 BYTS, Y2 SHCN (D79)

BYTS

PCS DEMUX

(C47) WRO0, (C61) IRI0 — RSIN — QA SLRB, QB N/C, QC N/C, QD WI5X (D45, D85)

(A19)+5R4, (D35) RBS15, (C80) WSTB, MRST (C63) — 74194 75 — CLK, SELO, SEL1, AR, LSIN

SHIFT SIGN CONTROL AND WORD/BYTE ACCESS

BCLK* (C64, C51, D78, C83, B83) — 85 7400

74S04 — (D64) BCLK — 88

74S04 — (D76) SHCZ, (C63) MRST — 97 74H106 — INHBT (A86)

(A19) +5R3

P3 27 WRS00 — 17 WRS01 — 20 MRS00 — 21 MRS01

GWRS00 (D48) — 85 7400

GWRS01 (D48) — 85 7400

GMRS00 (B46) — 86 7411

GMRS01 (B46) — 86 7411

INHBT

P3 24 INHBT, 7 SLØCK

(C63) IF, (A101) INTF, (A99) PWRUF — 136 7410

M AND W REG SETUP BITS

SHIFT SETUP

SIZE		REV
D	75-53506-XX	H5
	SCALE=	SHT. 7 OF

DRAWING NO. 75-53506-XX REV H5

REVISIONS					
REV	DESCRIPTION	DR	CH	DATE	APPROVAL

I REG CLOCK

(A55, D79)
+5R1 (C18)
(C121) RST
P3 43 BCLK
130 7474
N/C
RSTF (C94)
(D122) MDISI
75452P
MRST
P3 48
(C92, B91, C90)
(A92, B77, A55, B102)
(B99, C48, D48, B51)
(B76, A109, B109, C109)
(C111, C18)
(A54) BCLK*
(C73) TSTR
74H00
P3 28 SIF
74S113
IFI
(C96, D72, D70, D79, C78, C51)
P3 49 IF
(A92, A52)
(C90, D78, B99)
IFI
+5V
R25 1K
(D115) SACKI
118 8097
IF
P1 110
N/C
IF*
J1 B07
+5V
R34 1K
+5V
R33 1K
17 8097
(C49) SLBI
SLB
P1 120
J2 B62 PO2
7402
(D86, A102, B99)
ICLK
(D77)
(B54) IRSTR
(B115) PLSEI
7402
ICLK

I REG

(A19) +5R4
J1 P1
(C70) DB15 A43/156
(C70) DB14 B43/155
(D70) DB13 B42/154
(D70) DB12 A42/153
(C70) DB11 A40/152
(C70) DB10 B40/151
(C70) DB09 B38/150
(C70) DB08 A38/149
(B70) DB06 A39/147
(B70) DB07 B39/148
(B70) DB05 B33/146
(D18, B70) DB04 A33/145
(A70) DB03 B32/142
(D89) DB02 A32/141
(D89) DB01 B31/140
(D89) DB00 A31/139
ICLK
74175 (31, 19, 30, 29)
IR15 (A60, D58) (D60, C60)
IR15 (C60)
IR14 (D58) (D60, A60)
IR14 (D54, C60)
IR13 (A60, C58) (D54, D60, C60)
IR13 (C60)
IR12 (C58, B86) (B76, B60, C60)
IR12 (D54, C60)
IR11 (C58, B60) (D54, C60)
IR11 (B74, A77, D80)
IR10 (C51, D52, C85) (B60, C58, B85)
IR10 (B77)
IR09 (B60) (C58)
IR09 (B77, B86)
IR08 (B60) (C58)
IR08 (B77)
IR06 (B69) (B96, B58)
IR06 (D74)
IR07 (B69) (B96, B58)
IR07 (B77)
IR05 (B96) (B58, A69)
IR05 (C31)
IR04 (B96) (B58, A69)
IR04 (B60, D78, C74)
IR03 (A69) (B96, B58)
IR03 (B60, C31, D81)
IR02 (A69, A98, C96, B58)
IR02 (C31, D79, B94)
IR01 (B69, B98 C96, B58)
IR01 (D79, B94)
IR00 (B69, B98, C96, A58)
IR00
(D79, B94)
J2 B41 B6 A6 B12 B8 A25 B7 A7 A4 A3 B5 B16 B23 A38 B04 A05

PRE CODE

(D61) IRI5 IRI4 IRI3 IRI2
7420
ECHG
7410
ØPDO5 (B60)
(D61) IRI5 IRI4
7420
SHIFT
(D61) IRI3 IRI2
7420
(D61) IRI5 IRI4 IRI3
7410
ØPDO4 (B60)
JØC (B86) (C85)
(D61) IRI5 IRI4 IRI3
74H11
(D61) IRI2 (C61) IRI1
7410
IRI
ØPDO3
7400
(D61) IRI5 IRI4 IRI3
7410
ØPDO2
(D61) IRI5 (C61) IRI0
7400
J2 B18 A17 B29 B26
(C59) ØPDO4
(D59) ØPDO5
(C61) IRI1
(B61) IR03 (C61) IR08
(D61) IR12
(B61) IR04 (C61) IR09
(C61) IRI1
ADI MO M1 M2 M3 MEN NO N1 N2 N3 NEN ADO MOUT NOUT
20 74153
ØPDO0
ØPDO1
J2 A18 B17
7427
(D61) IRI4 IRI3 IRI5
7410

I REG TO BBUS

J2 A8 I8I5
EN 43 8097
IRI5 IRI4 IRI3 IRI2 (D61)
BBS15 BBS14 BBS13 BBS12 (D42)
EN 42 8097
IRI1 IRI0 IR09 IR08 (C61)
BBS11 BBS10 BBS09 BBS08 (C42)
J2 19 I67
EN
IR07 (B61)
IR06 (C61)
BBS07 BBS06
EN 41 8097
IR05 IR04 (B61)
BBS05 BBS04 (B42)
J2 B9 IL6
EN 8097
IR03 (B61)
IR02 (B61)
IR01 (A61)
IR00 (A61)
BBS03 (B42) BBS02 (A42) BBS01 (B42) BBS00 (B42)

SIZE		REV
D	75-53506-XX	H5
SCALE:	SHT. 8 OF	

75-53506-XX H5

REVISIONS					
REV	DESCRIPTION	DR	CH	DATE	APPROVAL

DATA BUS TRANSCEIVERS

I REG TO ADD BUS

M REG TO ADD BUS

W REG TO ADD BUS

SIZE	75-53506-XX	REV
D		H5
SCALE=	SHT. 9 OF	

DRAWING NO. 75-53506-XX REV H5

REVISIONS					
REV	DESCRIPTION	DR	CH	DATE	APPROVAL

(B54) $\overline{SHCN}$
(D64) $\overline{BCLK}$
(C61) IR11
(B61) IR03
(B61) IR02
(A61) IR01
(A61) IR00
(C63) $\overline{IFI}$
(A19) +5R3
113B 74191 UP DOWN BINARY COUNTER
N/C
$\overline{RPL}$
MIN
J3 A08
(B61) IR04
(C63) IF
7408
(C18) +5R1
144
(A54) BCLK*
74H106
(B118) $\overline{PCNM}$
7432
SHCZ (A55)
SHIFT COUNT
(A19) +5R3
111 7474
(B121) $\overline{STF}$
$\overline{STRTI}$
J3 A35
(D122) $\overline{MDISI}$
(C63) $\overline{IFI}$
(D36) ALAB
(A46, B51, C29, D47)
P3 13 $\overline{WSTB}$
WSTB (C56, ,A99)
P3 35 FW
(B31) FWS00
(C31) FWS01
74H11
74S04
122 7474
$\overline{RBSIS}$ (D35)
APOS
$\overline{APOS}$
(C63) $\overline{MRST}$
AZER
XZER
(B61) IR07
(C61) IR08
(C61) IR09
(B82) ΦVF
(C61) IR10
(C61) IR11
(C36) CΦUT
109 74H106
(D87) $\overline{CS08}$
(C63) $\overline{MRST}$
(D61) $\overline{IR12}$
7410
7486
J1 P1 A07 109 SSW
R31 1K
+5V
C102 100 PF
FILE FLAGS
TTM00
TTM01
TTM02
E73
(B109) NSER
(C61) IR06
$\overline{STRTI}$
(B61) IR04
ALAB
CDJTT
SHCZ
APΦS
8-INPUT MULTIPLEXER
112A 74S151
$\overline{RΦM00}$
C64
P3 37 TSTR
74H00
(C84) $\overline{ΦVM}$
(A101) INTF
(D53) WØRDM
$\overline{CΦUTL}$
(B121) $\overline{SERV}$
(B97) $\overline{INTP}$
(C61) IR11
(D86) $\overline{RBL15}$
112B 74S151
P3 25
32
31
30
TTM02
TTM01
TTM00
(D74)
TEST TREE

SIZE	DRAWING NO.	REV
D	75-53506-XX	H5
SCALE=	SHT. 10 OF	

80 79 78 77 76 75 74 73

REVISIONS					
REV	DESCRIPTION	DR	CH	DATE	APPROVAL

(D35) $\overline{RBS15}$

(A19) +5R3

7486 138

121 74H106

P3 22

$\overline{CS08}$

(B76) $\overline{CS08}$

(A64) $\overline{PO2}$

$\overline{RBL15}$ (B74)

+5V R30 1K

(B119) GØ

7438 110

7486 138

7474 115 6 NORMG

(B50) $\overline{W15X}$

(D47) $\overline{WR14}$

(B38) ALS03

(A19) +5R3

7486 138

7474 86

74H11

7404 101

$\overline{RBS15}$

91 74S151

(B38) ALS03

(D42) $\overline{BBS15}$

(D26) $\overline{ABS15}$

OVERFLOW LOGIC

$\overline{AR\emptyset V}$

102A 74S151

(D46) $\overline{WR15}$

(C47) $\overline{WR00}$

(A45) $\overline{MR00}$

$\overline{RBL15}$

(C59) J$\emptyset$C

74H00 100

(C61) $\overline{IR10}$

$\emptyset$VF

$\overline{AR\emptyset V}$

$\overline{OUT}$ 5 $\emptyset$VM (C74)

(A36) $\overline{RBS00}$

7404 101

(A54) BCLK*

(D93) ST$\emptyset$UT

7410 126

7411 33

109 74H106

(A54) BCLK*

K$\emptyset$VF

$\emptyset$VF (B77, D90)

(D45, B48) $\overline{\emptyset VF}$

P1 137

(A36) $\overline{RBS00}$

(D93) ST$\emptyset$UT

(A54) BCLK*

(D91) $\overline{STCLR}$

7410 126

7408 37

P3 (D32)

02 $\emptyset$VO2

05 $\emptyset$VO1

14 $\emptyset$VO0

(D53)

102B 74S151

(D46) $\overline{WR15}$

(C47) $\overline{WR00}$

(A45) $\overline{MR00}$

(C61) $\overline{IR10}$

OUT 5 K$\emptyset$VF

$\overline{OUT}$ 6 N/C

(D61) $\overline{IR12}$

(C61) IR09

7411 18

(C59) J$\emptyset$C

7404 101

P3 01 (D32)

$\overline{\emptyset VCLK}$

(A53) $\overline{INHBT}$

7402 98

74S04 88

$\emptyset$VF

$\emptyset$VF

SIZE		REV
D	75-53506-XX	H5
SCALE=	SHT. 11 OF	

REVISIONS					
REV	DESCRIPTION	DR	CH	DATE	APPROVAL

STATUS IN/ØUT

(A114) ØUT — 141A 7404 — ØUT(A99)

ØUT(A99) — 140 7400 — STØUT(C83, B83)

STØUT (A99) — (C54) SWB — 140 7400

STIN

(D116) SACKI

(B61) IRQ2, (A61) IRQ1, (A61) IRQ0, (C63) IFI — 127, 127 74H11 — DFZER

DFZER — (D31) FILS — 115 74H11

(A114) IN — 141A 7404 — 140 7400 — 125 7402 — 125 7402 — STCLR

(B115) PLSET

(D63) RSTF

DFZER — P3 45

DFZER(A99)

(B61) IRQ7, (C61) IRQ6, (B61) IRQ5, (B61) IRQ4, (B61) IRQ3 — 18, 18 74H11 — 124 7400 — CLKF

(B114) EXC — 99 7404

DUAL 2 TO 4 DECODER 141B 74155

CLKF — YEN

(A61) IR00 — A

(A61) IR01 — B

(B61) IR02 — XEN

Y0 — N/C

Y1 — SCIE

Y2 — SCID

Y3 — STRP

X0 — N/C

X1 — N/C

X2 — SPFE

X3 — SPFD

(C63) MRST — 143 7408

STCLR (B83)

(A36) RBSO1 — 117 7474 — BYT(C115)

BYT(D53)

(C18) +5R1

(B102) INT — 7438 — DBO2 (A70, B62, C99, B18)

DBO1 (A70, A62, C99, D18)

(B82) ØVF — DBO0 (A70, A62, D18)

STIN

STATUS IN

J3 A04

CIE (D103)

SCIE

(D101) CIO2 — 142 74H106 — N/C

SCID

(C63) MRST — 143 7408

(C18) +5R1 — 130 7474 — (D103) — J3 A01 TRP

TRPF — N/C

(C63) IF

(C63) MRST

PFR AND CONSOLE ENABLE CONTROL

STRP

142 74H106 — TRPF

(B114) IAR — 34 74S04 — IAR (C102)

MRST (C63)

PROCESSOR FLAG CONTROL

SPFE

129 74H106 — 129 74H106

(C63) IF

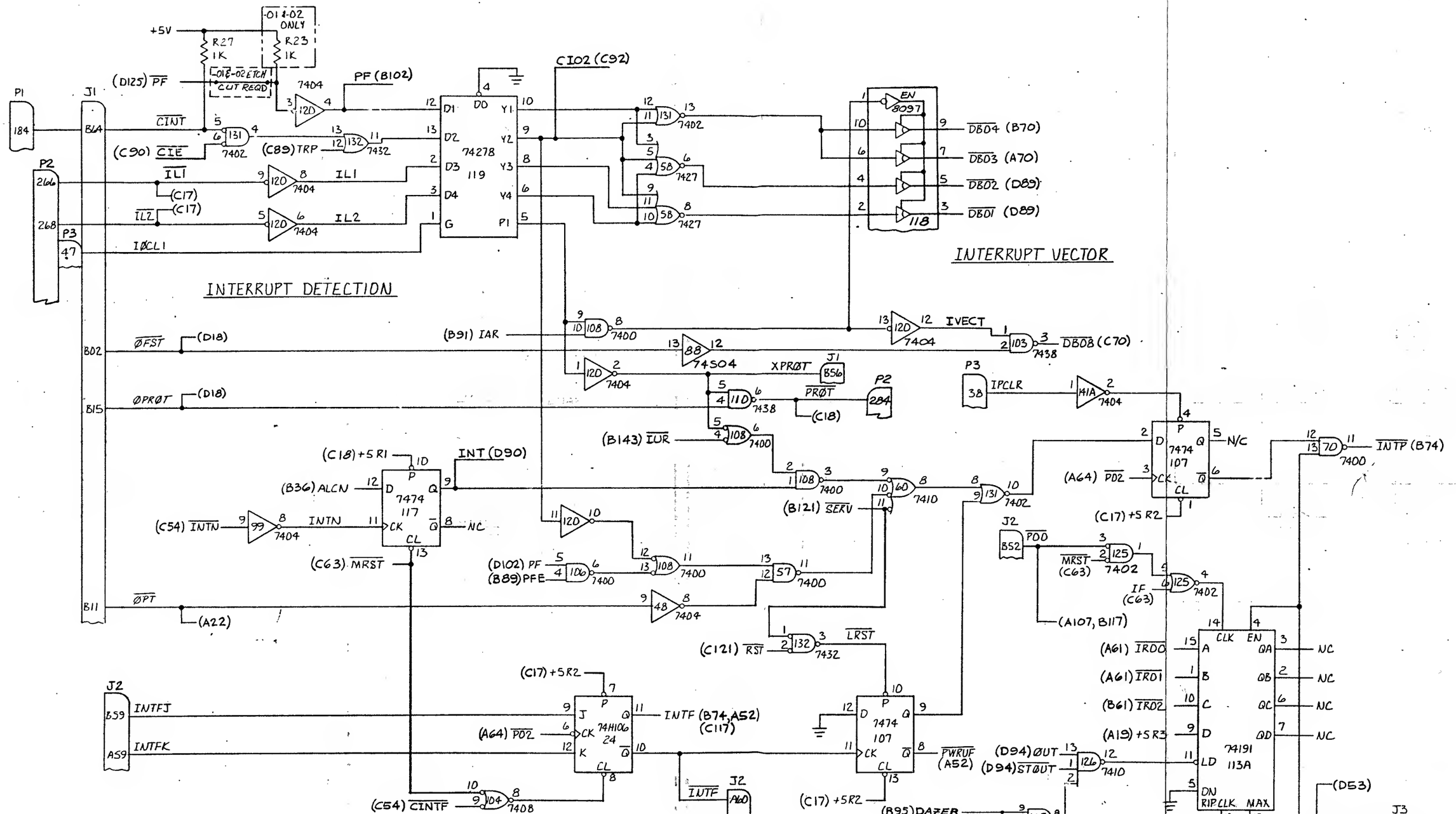
(C63) MRST — 143 7408

SPFD

(B102) — 127 74H11 — PFE — J3 A06

SIZE	DRAWING NO.	REV
D	75-53506-XX	H5
SCALE=	SHT. 12 OF	

REVISIONS					
REV	DESCRIPTION	DR	CH	DATE	APPROVAL



SIZE	DRAWING NO.	REV
D	75-53506-XX	H5
SCALE=	SHT. 13 OF	

REVISIONS					
REV	DESCRIPTION	DR	CH	DATE	APPROVAL

I/O BUS SEQUENCER

SIZE		REV
D	75-53506-XX	45
SCALE=	SHT. 14 OF	

REVISIONS					
REV	DESCRIPTION	DR	CH	DATE	APPROVAL

(B112) IØCLI
(A101) INTF
7438
+5V
R28
1K
J2 B28
10 MHZ
IUAI
10MHZ
IUAI
8097
FCLK
IUA
SACKI
IMHZ
SACK
CLK
(C50, D69, C69, C95)
J2 B20
J2 B27
SACKI
(B64, A112)
74S04
(B140, A143, C127)
(B140), MST
(D106) MSTI
ECHØI
ECHØ
(C18)
J1 A16 P2
270
236
263
215
272
P1
170
163
115
172
J1
B54
A50
A13
A57
(D17)
(D18)
(B106) BS08
(C106) BS03
74S11
74S10
(B54) ECEN
7404
(D91) BYT
P1 135
(D19) STØP
C101 390PF ±5% 500V
BM
STØPI
P1 134
J2 B13
U2 B54
RSVP
(C111)
74S00
ECEN
(B54) IRSTR
74H11
SEN
(B99) P00
74S113
(C106) BS03
(A119) IØ
N/C
CDEN
(C106) BS04
(B106) BS07
(A64, C94)
PLSEI
IARI
EXCI
EXC (B96, C19)
PLSE (C18)
IAR (B92, C18)
EXEC (C19)
ØUT (C95, C19)
IN (C95, C19)
271
267
257
262
258
171
167
157
162
158
PLSE
IAR
EXEC
ØUT
IN
A56
A53
A46
B49
B46
J2 B36
B42
B19
B55
GØ
IØS00
IØS01
CS01
IØ
(D72, D85, D70)
(D72, D108, A119)
(B117, B108)
(D70, C110)
74155
74S00
74S04
PCNM (D77)
INI
ØUTI
IØ
(A109, D106)
J2 B37

SIZE		REV
D	75-53506-XX	H5
	SCALE=	SHT. 15 OF

REVISIONS					
REV	DESCRIPTION	DR	CH	DATE	APPROVAL

P1 J1 112 A9 B9 +5H (D124, B128, D23)

(C124) MDEN 1 14 2 92 3 7400 UPSEQ

(A121) +5V R7 1K

(B137) PFD 2 D PR 4 14 7474 80 CP CL 1 Q 5 QPFD

RTC CTR 100 KZ 3 CP Q 6 QPFD J3 A2

+5V R16 22K

C69 .15uf ±10% 50V

MDEN (D125) 13 12 92 11 7400 QMDIS (C123)

(B125, A124) 5 4 95 95 9602 IMSEC Q 6 7 PF (D103)

(D127) MDEN R 3

+5H (D127)

RP10 1K 1 2 10

R12 330Ω

10 9 92 8 7400

(B126) 200KZ 11 CP D PR 12 7474 80 CL 13 Q 9 MDEN 8

(A126) PRST

+5V R32 300Ω

Q1 2N3724

R13 510Ω

(A124)

3 4 60 6 7410

6 7 96 5 75452P

(A46, B46, C64, C28, A19, C139, D143)

P3 MDIS1 D4

MDIS P2 222 9 P1 122 MDIS J1 B17

MDEN (D128, D125, C126)

+5 R6 (C17)

J1 QMDIS B63

RTC CTR 100 KZ J1 B6

CLK (D114) 6 CP2 10 B 3 C 11 D QB 9 NC QC 2 NC QD 12 200KZ (C125, C124) CP1 8

(B126) 200KZ 1 2 106 3 7400 12 13 106 11 PFCLK 7400

3 2 K J 1 R 15 QA QMDIS (D125)

10 CP 14 QB

9 L/S 13 QC

4 A 12 QD

5 B

6 C 74195 105

7 D 11 QD

-00, -02 -01 ETCH CUT REQD R22 1K +5V

11 48 10 7404

12 13 69 11 7438

(D64, C18, B100) J1 A54 P1 169 EST

-00, -02 -01 ETCH CUT REQD R4 1K +5V

13 81 12 1 Z 69 3 7438

183 SERV (B74, B100), (A17)

P1 J2 138 B38 START

12 13 104 11 7408 STF (C77)

(D17)

5 4 104 6 7408 BKEN (B143)

(C17) +5R6 4 A QA 5 RTL CTR 100 KZ

RTL CTR 100 KZ 6 CP2 10 B 3 C 11 D QB 9 N.C. QC 2 N.C. QD 12 CP1 8

1 C/L 13 R 74196 93

4 A QA 5

(D127) QPFD 1 C/L 13 R 74196 94

+5H (D127)

1 RPID 1K 10

CR1 IN4002

RPID 1K 1 5 RPID 1K 6 RPID 1K 7 RPID 1K 8 RPID 1K 9

Q2 2N2905

C60 2.2uf

R14 390Ω

4 5 92 6 7400C PRST (C124)

+5V R18 1K

J1 B10 QATLD 1 2 104 3 7408

(D127) QPFD

(C124) MDEN 11 12 95 95 9602 IMSEC Q 10 R 13 9 10 9 106 8 7400 UPSEQ (D128)

C57 .15uf ±10% 50V +5V R15 22K

J3 A5 CUSQ (C17)

POWER FAIL

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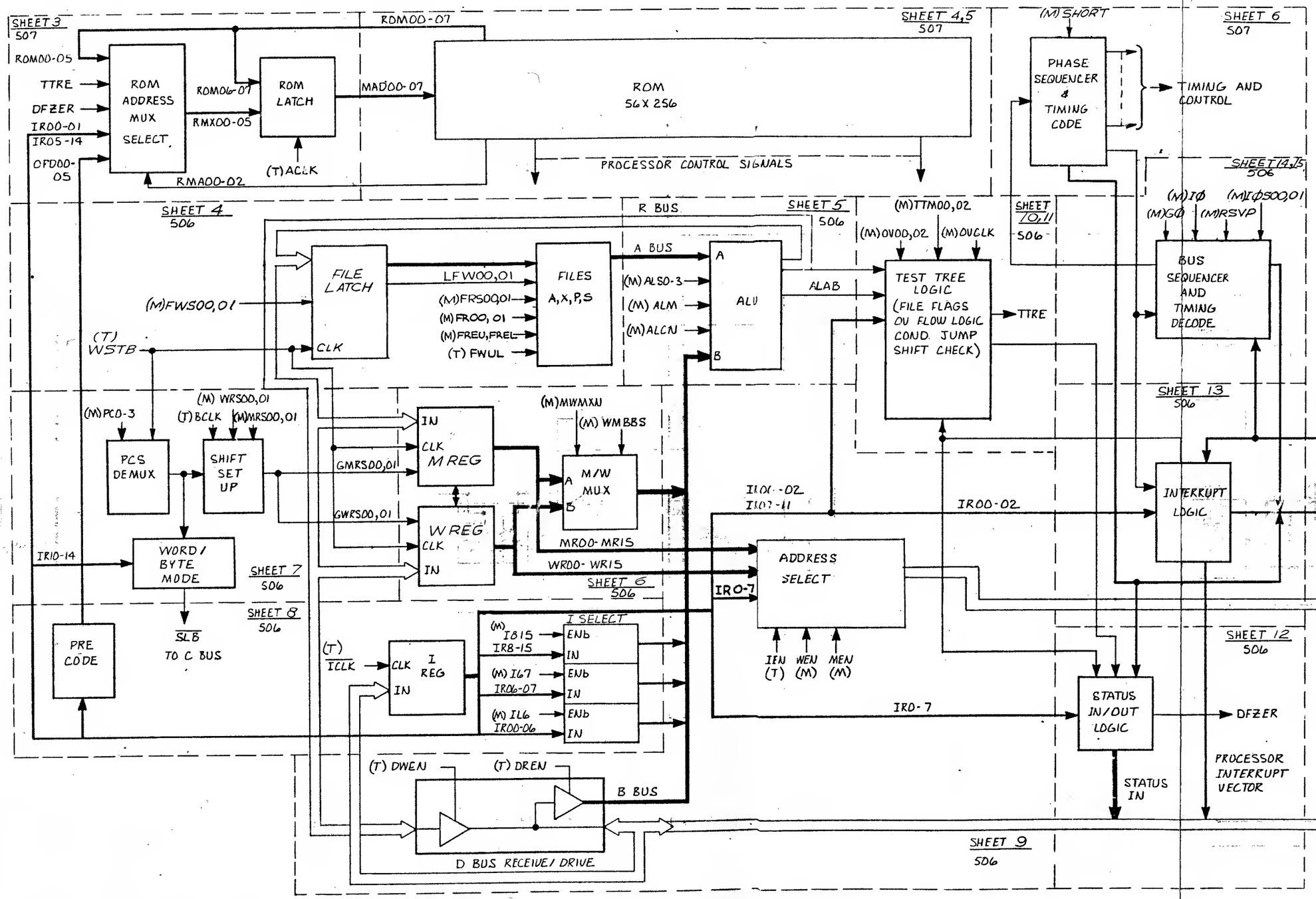
SIZE		REV
D	75-53506-XX	45
SCALE =	SHT. 16 OF	

DISCARD NO. 75-53506-XX REV CH

128 127 126 125 124 123 122 121

REVISIONS					
REV	DESCRIPTION	DR	CH	DATE	APPROVAL



2. (T) DESIGNATES TIMING AND CONTROL SIGNALS.
1. (M) DESIGNATES PROCESSOR (ROM) CONTROL SIGNALS.

NOTES- UNLESS OTHERWISE SPECIFIED

LSI-2 BLOCK DIAGRAM

SIZE	DRAWING NO.	REV
D	75-53506-XX	H5

SCALE = SHT. 17 OF

136 135 134 133 132 131 130 129

REV	DESCRIPTION	DR	CH	DATE	APPROVAL

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SIZE	DWG NO.	REV
D	75-53506-XX	H5
	SCALE =	SHT. 18 OF 18